

Work Order ID 142635

Friday, March 11, 2016 9:57:36 AM

646.3301
B142635
REV. N/C3***142635***

Page 1

Item ID: 646.3301

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Upper Cutter Assy

Start Date: 4/8/2016 Start Qty: 5.00

5

Cust Item ID:

Required Date: 4/22/2016 Req'd Qty: 5.00

5

Customer:

Reference:

Approvals: Process Plan: ML5 Date: MAR 11 2016

Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
646.3300	NC3								

110 Pick Kit 0.00

110

Packaging

Memo

0.01

Packaging

DAS
30
9-89

5

JUN 29 2016

120

0.00

120

Small Fab

Memo

0.05

Small Fab

TWO fastener must be install finger-tight (see note 9)

DAS
30
9-89

5

JUN 29 2016

Assemble as per dwg and apply loctite 598 on all faying surfaces shown on dwg per note 7.

A/R RTV LOCTITE 598: M134524
exp. date: 9/17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause	FAULT CATEGORY				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Friday, March 11, 2016 9:57:36 AM

Page 2

Accept

Setup Start *NS1*

Stop *NS2*

Cust Item ID:

Customer:

Reference:

Run Start *NR1*

Stop ***NR2***

Accept Qty	Reject Qty	Reject Number	Insp. Stamp
---------------	---------------	------------------	----------------

Quality Control

DAS
38
9-89
JUL 05 2016

0.00

***IDENTIFY AS PER APICAL MPP-120 BY STAMPING THE P# AND
REV***

3 JUL 05 2016 4:15
6
9:00

0.00

Quality Control

DAS
21 JUL 06 2016
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
		OTHER : ☐							

Picklist Print

Friday, March 11, 2016 9:57:36 AM

Page 1

Work Order ID: 142635

142635

Parent Item: 646.3301

646.3301

Parent Item Name: Upper Cutter Assy

Start Date: 4/8/2016

Required Date: 4/22/2016

Start Qty: 5.00

Required Qty: 5.00

Comments: IPP REV:A 12.10.19 NEW ISSUE DD VERF:JLM
REV:B 15.01.07 AS PER DWG NC3 DD VERF:JLM

IPP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
646.3310		Manufactured	No			110	Each	0.0000	1	5			DAS 6 9-89
646.3310									**	142252			
LH Half - Upper Cutter Assembly													
646.3311		Manufactured	No			110	Each	0.0000	1	5			DAS 6 9-89
646.3311									**	141005			
RH Half - Upper Cutter Assembly													
646.3312		Manufactured	No			110	Each	0.0000	1	5			DAS 6 9-89
646.3312									**	141102X3			
Center Plate													
646.3313		Manufactured	No			110	Each	0.0000	1	5			DAS 6 9-89
646.3313									**	142637X2			
Upper Guide													
646.3314		Manufactured	No			110	Each	0.0000	1	5			DAS 6 9-89
646.3314									**	141083X3 142644X2			
Blade													
646.3315		Manufactured	No			110	Each	0.0000	1	5			DAS 6 9-89
646.3315									**	140576X3 142476X2			
Blade													
646.3316		Manufactured	No			110	Each	9.0000	1	5			DAS 6 9-89
646.3316									**	136573X4 142636X1			
Blade													

Location

Loc Qty

Loc Code

cck103

9

136513

9

DAS
6
9-89

MAY 25 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Friday, March 11, 2016 9:57:36 AM

Page 2

Work Order ID: 142635

142635

Parent Item: 646.3301

646 3301

Parent Item Name: Upper Cutter Assy

Start Date: 4/8/2016

Required Date: 4/22/2016

Start Qty: 5.00

Required Qty: 5.00

NAS1149FN832P

Purchased

No

110

Each

3,671.000

36

180

NAS1149FN832P

Washer

910Z 5 0 700

DAS

30

9-89

Location

Loc Qty

Loc Code

GA

1361

M133316

16

M133769

1345

ST260a

1200

M134257

1200

ST262

1110

M133709

1110

~~88~~

MS21042L08

Purchased

No

110

Each

1,645.000

18

90

MS21042L08

Nut

910Z 5 0 700

DAS

30

9-89

Location

Loc Qty

Loc Code

CA

101

m129682

101

GA

161

m133134

3

m134063

158

OVER007

500

m134063

500

ST303

483

m133922

483

ST308

400

m134376

400

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Page 3

Friday, March 11, 2016 9:57:36 AM

Work Order ID: 142635

142635

Parent Item: 646.3301

646 3301

Parent Item Name: Upper Cutter Assy

Start Date: 4/8/2016

Required Date: 4/22/2016

Start Qty: 5.00

Required Qty: 5.00

NAS1149F0332P

Purchased

No

110

Each

2,688.000

DAS
30
** 9-89

30

JUL 05 2016

NAS1149F0332P

Washer

Location

Loc Qty

Loc Code

GA

384

m133709

384

30

ST262

2304

m134134

804

m134257

1500

AN3-12A

Purchased

No

110

Each

141.0000

2

10

JUL 05 2016

AN3-12A

Bolt

** DAS
30
9-89

Location

Loc Qty

Loc Code

GA

2

m129682

2

over003

100

m134257

100

10

ST349

39

m133064

16

m133234

23

Friday, March 11, 2016 9:57:36 AM

Shop Packet Print

Page 3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

Picklist Print

Friday, March 11, 2016 9:57:36 AM

Page 4

Work Order ID: 142635

142635

Parent Item: 646.3301

646.3301

Parent Item Name: Upper Cutter Assy

Start Date: 4/8/2016

Required Date: 4/22/2016

Start Qty: 5.00

Required Qty: 5.00

MS21042L3

Purchased

No

110

Each

2,910.000

3 DAS 15

MS21042L3

Nut

** 30
9-89

JUL 05 2016

Location

Loc Qty

Loc Code

FP001

163

m133790

163

~~GA~~

68

m133790

68

OVER007

2000

m134360

2000

ST304

679

m134039

679

MS27039-08-19

Purchased

No

110

Each

1,040.000

18 DAS 90

MS27039-08-19

Screw

** 30
9-89

JUL 05 2016

Location

Loc Qty

Loc Code

CCK06

200

m134142

200

GA

677

m132930

84

m133077

22

m134063

571

over006

100

m134294

100

ST277

63

m133769

63

Friday, March 11, 2016 9:57:36 AM

Shop Packet Print

Page 4

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabelled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Friday, March 11, 2016 9:57:36 AM

Page 5

Work Order ID: 142635

142635

Parent Item: 646.3301

646.3301

Parent Item Name: Upper Cutter Assy

Start Date: 4/8/2016

Required Date: 4/22/2016

Start Qty: 5.00

Required Qty: 5.00

AN3-14A

Purchased

No

110

Each

110.0000

1

5
DAS
30
9-88

JUL 05 2016

AN3-14A

Bolt

**

Location

Loc Qty

Loc Code

over003

80

M 134634 2

m133992

50

m134360

30

33

ST349

30

m134167

30

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Shop Packet Print

Page 5

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval 	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

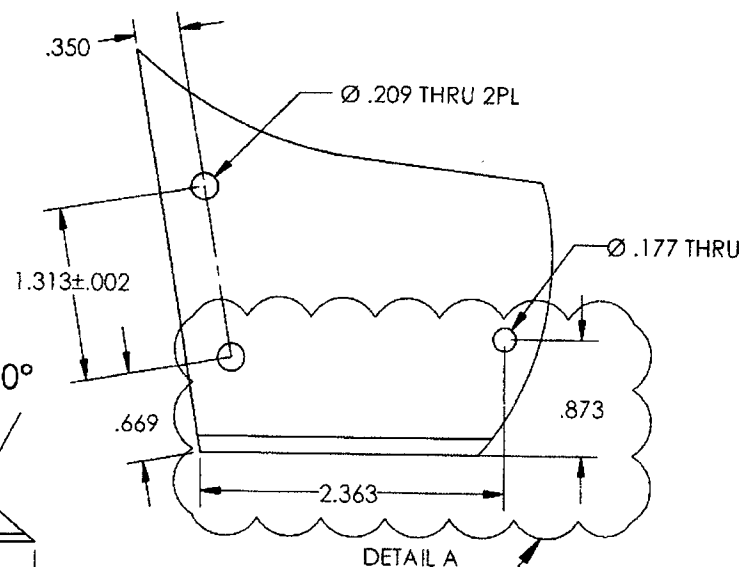
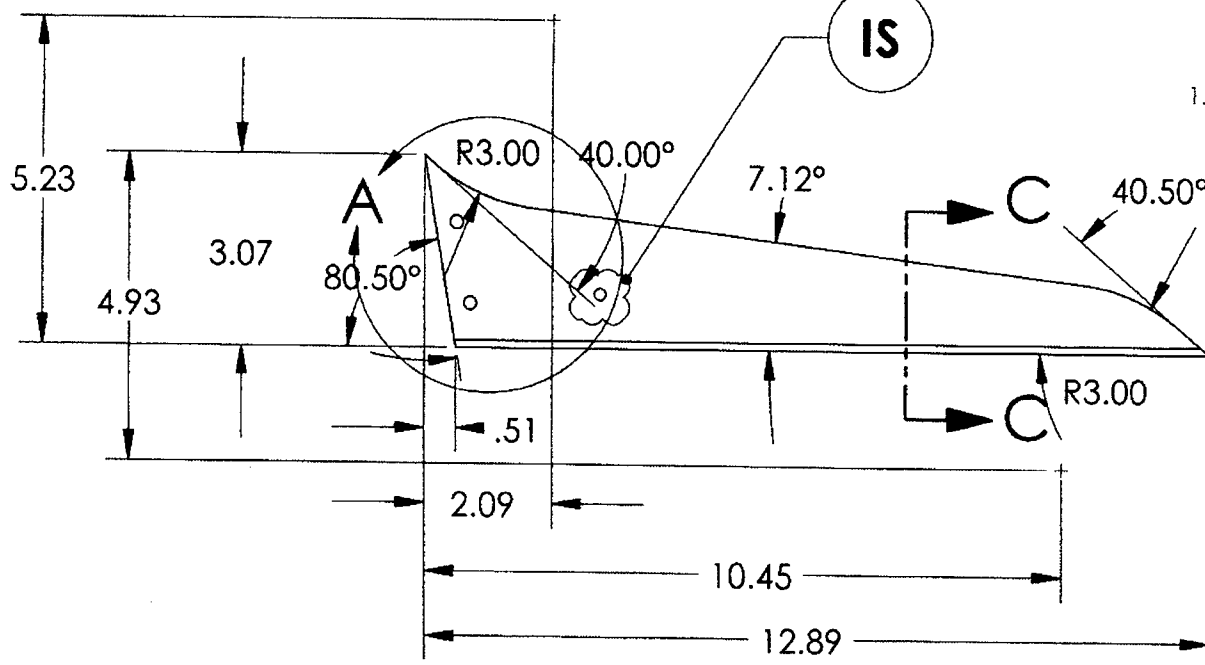
APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.		04765		SHEET 1 OF 1	
DWG NO.	646.3300	REV:	NC	PREPARED BY	J. SOTO
DATE:		12/08/2014			
DWG TITLE:		UPPER CUTTER ASSY			
APPROVED BY:		ENGR.	<i>[Signature]</i>	MFG	<i>[Signature]</i>
		QC	<i>[Signature]</i>	EFF. NEXT ORDER	
REASON:		ADDED HOLE DIMENSION TO 646.3313.			

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

SHEET 5 IS:

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 14263 SMLJ
16-03-11



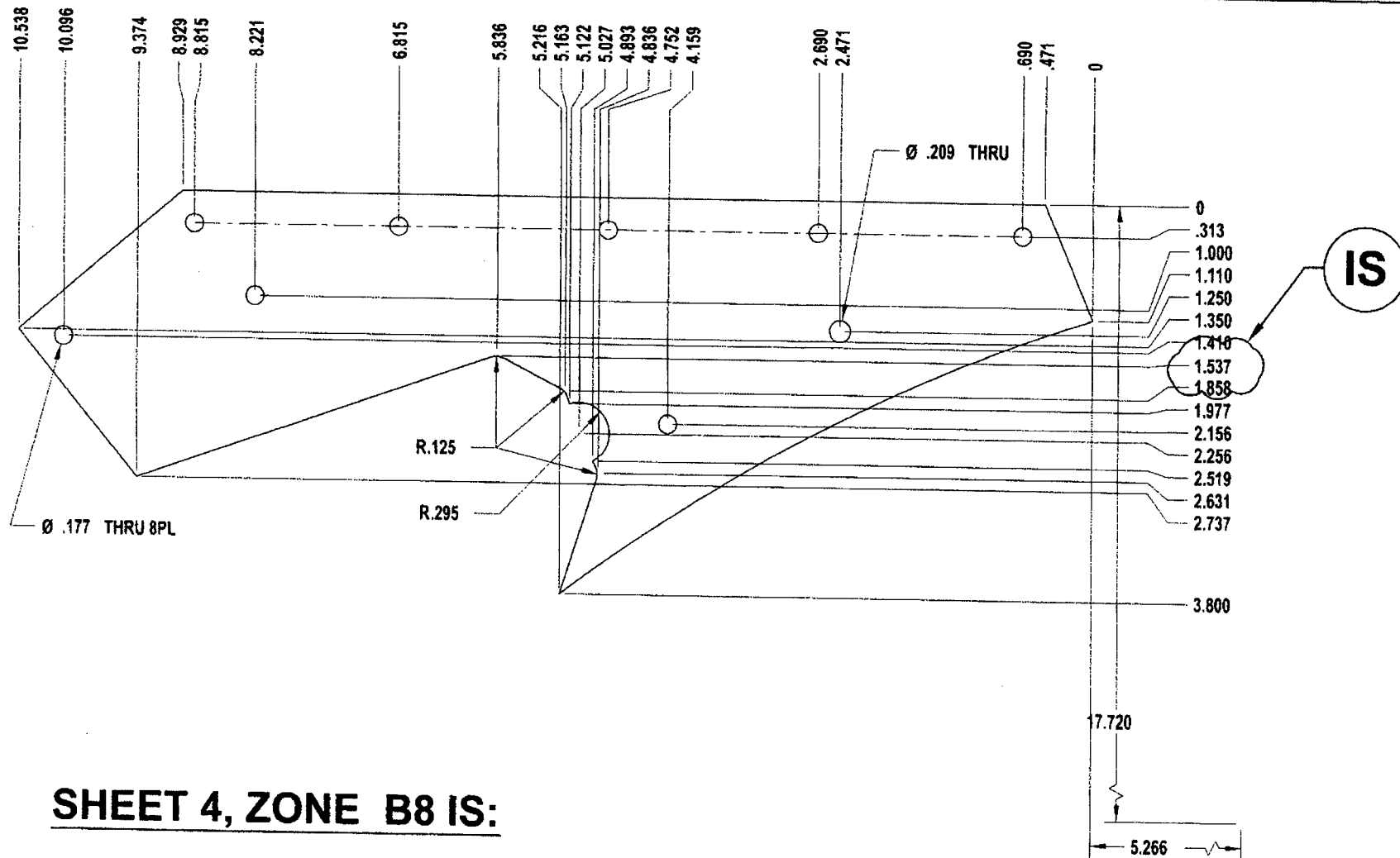
DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY
☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED
☐ YES ☒ NO

APICAL INDUSTRIES, INC.	ENGINEERING CHANGE NOTICE NO. 03724				SHEET 1 OF 1	
	DWG NO. 646.3300	REV: N/C	PREPARED BY B. PETERS	DATE: 12/05/12	EFFECT ON DWG ☐ INC. ☒ UNINC.	
	DWG TITLE: UPPER CUTTER ASSY					
APPROVED BY: ENGR <i>[Signature]</i>		MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: NEXT ORDER		
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REVISED ORDINATE DIMENSION.				ECR: D-12-025



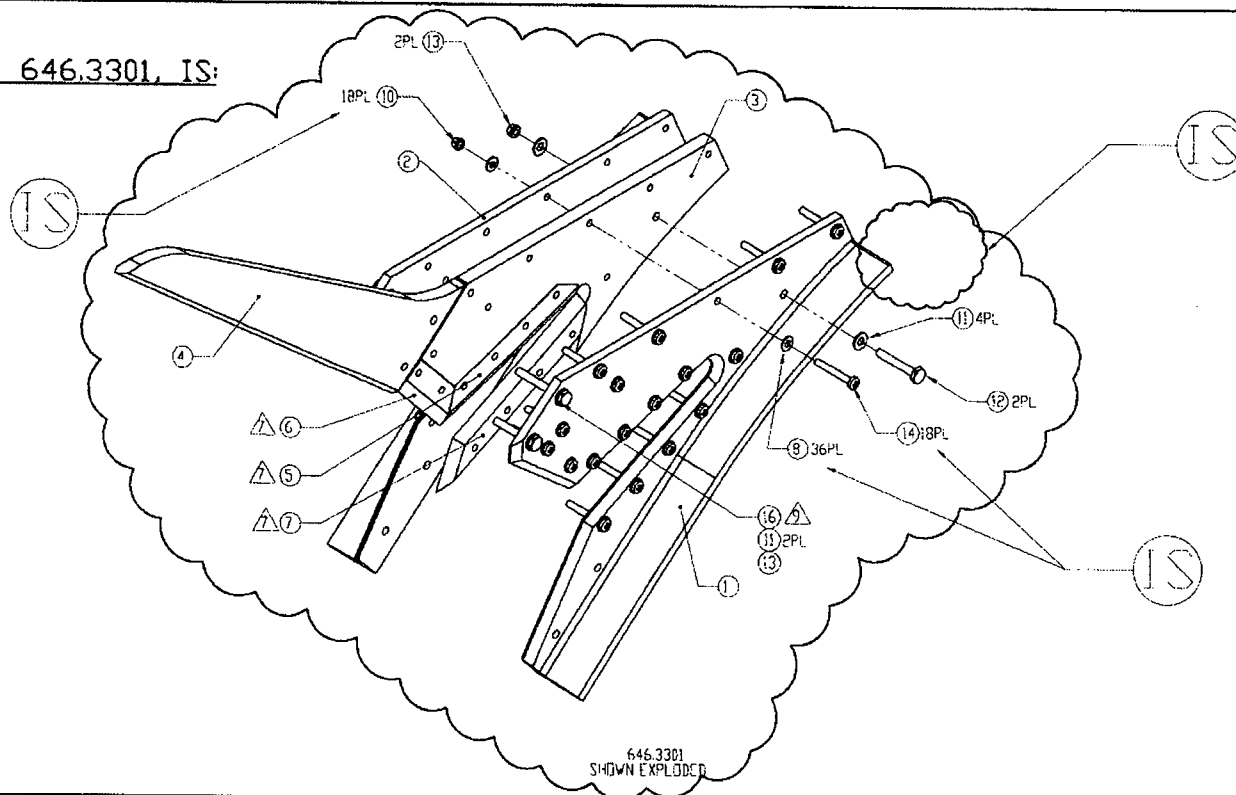
SHEET 4, ZONE B8 IS:

DOCUMENTS EFFECTED:	☐ RFMS ☐ MDL ☐ INSTALL INSTRUC ☐ ICA ☐ BOM	CHANGE CATEGORY	DER REVIEW REQUIRED
		☐ MAJOR ☒ MINOR	☐ YES ☒ NO

APICAL
INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.		02196		SHEET 1 OF 2	
DWG NO.	646.3300	REV: N/C	PREPARED BY	S. HUFF	DATE: 01/05/09
DWG TITLE:		UPPER CUTTER ASSY			
APPROVED BY:	ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC	<i>[Signature]</i>	EFF: NEXT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE		REASON: REMOVED RIVETS IN FAVOR OF ADDITIONAL SCREWS			
EFFECT ON DWG ☐ INC. ☒ UNINC.					

SHEET 1, VIEW 646.3301, IS:



14	R	601.2765	18	SCREW	MS27039-0819
10	R	601.1541	18	LOCKNUT	MS21042L08
9	D	601.2766	3	RIVET	MS20470AD5-18
8	R	601.2764	36	WASHER	NAS1149FN832P
			3301		
F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED:				☐ MDL ☒ INSTALL INSTRUC ☒ ICA ☐ FMS ☒ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR
				DER REVIEW REQUIRED ☐ YES ☒ NO	

MATERIAL/SPECIFICATION

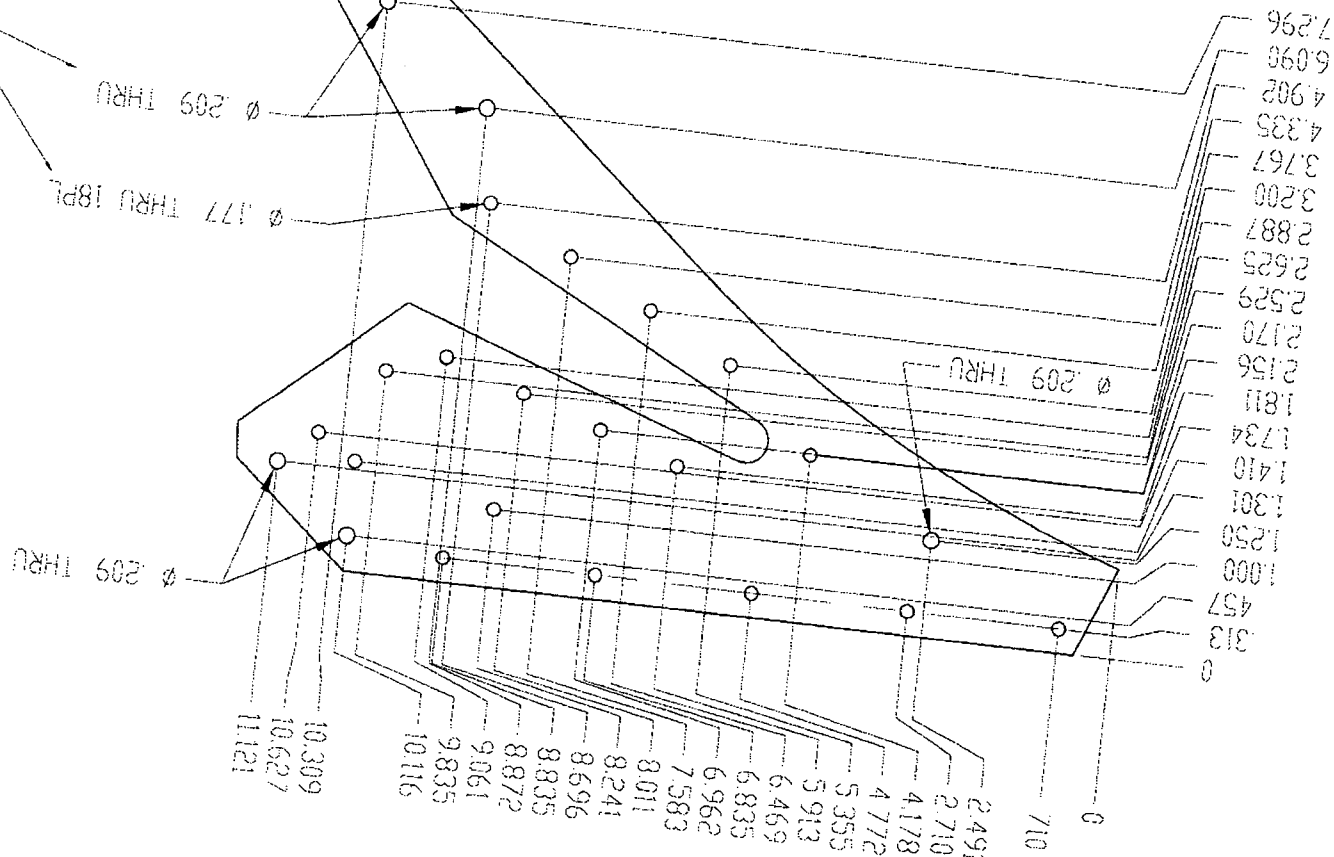
DESCRIPTION

QTY

C PART NUMBER

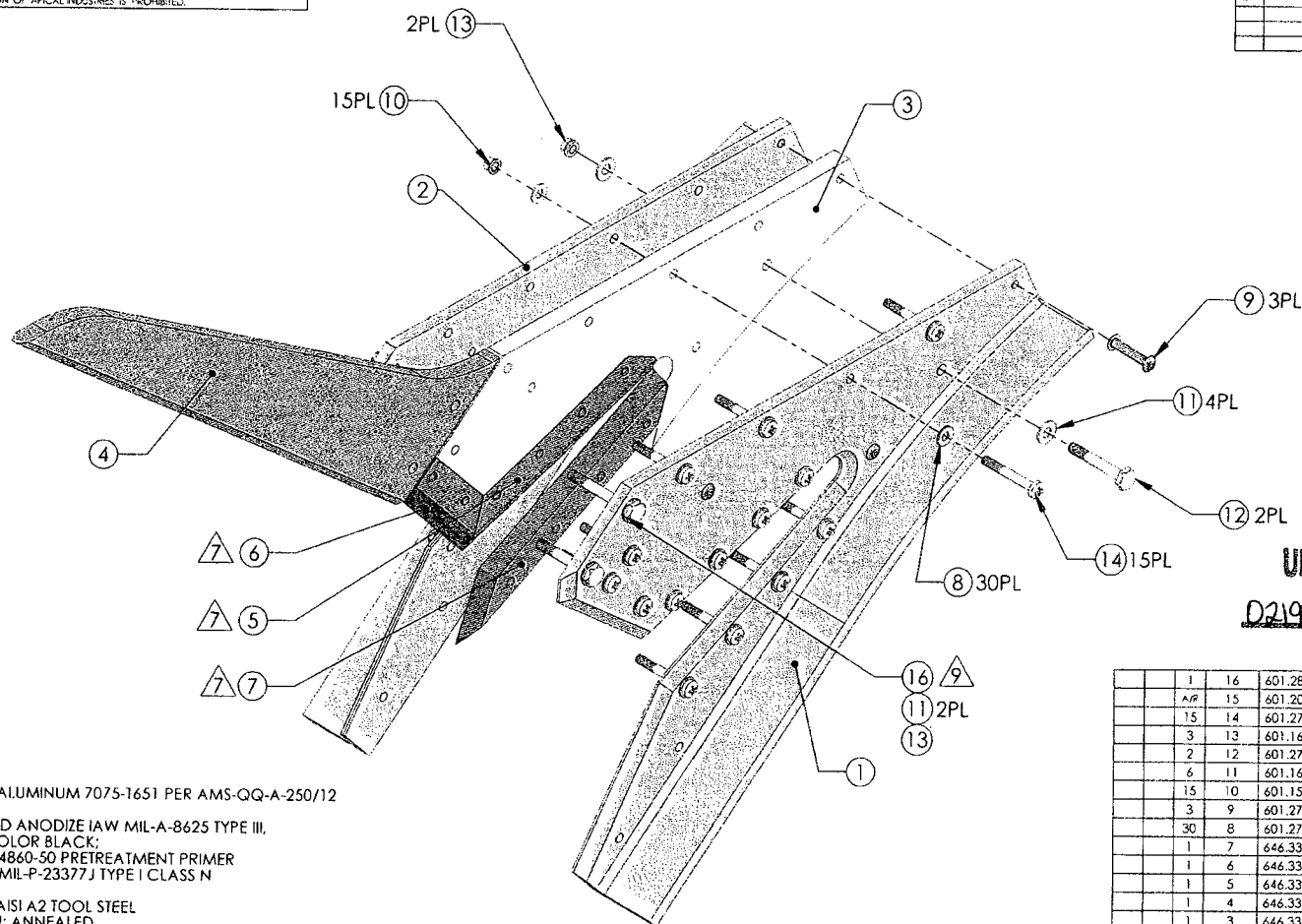
SECTION A-A

IS



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REV	DESCRIPTION	DATE	APPROVED



UNINCORPORATED ECN(S)

02196, 03724, 04765

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N
- 3 MATERIAL: AISI A2 TOOL STEEL
CONDITION: ANNEALED
POST PROCESS: HEAT TREAT TO 58-62 Rc ROCKWELL HARDNESS
- 4 FINISH: PRIME IAW MIL-P-23377J TYPE I CLASS N
- 5 DEBURR AND BREAK ALL SHARP EDGES EXCEPT WHERE OTHERWISE NOTED
- 6 IDENTIFY IAW MPP-120
- 7 APPLY F/N 15 AS REQUIRED TO ALL FAYING SURFACES OF F/N 5, 6 & 7 UPON ASSEMBLY
- 8 CUTTING EDGE INTENDED TO BE SHARP, DO NOT BREAK SHARP EDGE
- 9 INSTALL FASTENER FINGER-TIGHT

646.3301
SHOWN EXPLODED

QTY	FIND #	PART #	DESCRIPTION	MATL	SPEC.
1	16	601.2834	BOLT	AMS144	
A/P	15	601.2045	RTV, LOCITE 598		
15	14	601.2765	SCREW	MS2753-0811	
3	13	601.1624	LOCKNUT	MS2104215	
2	12	601.2763	BOLT	AMS127A	
6	11	601.1607	WASHER	MS211490233P	
15	10	601.1541	LOCKNUT	MS2104208	
3	9	601.2766	RIVET	MS20410A DS-15	
30	8	601.2764	WASHER	MS2114918023P	
1	7	646.3316	BLADE		
1	6	646.3315	BLADE		
1	5	646.3314	BLADE		
1	4	646.3313	UPPER GUIDE		
1	3	646.3312	CENTER PLATE		
1	2	646.3311	RH HALF		
1	1	646.3310	LH HALF		
1		646.3301	UPPER CUTTER ASSY		
251					
PARTS LIST					
NEXT ASSY (S)			ORIGINAL DATE: 08-24-08		
646.4000			DRAWN BY: SHEET: 1		
			5: 10/01		
			DRAWING APPROVAL: 83		
			BY: 08/24/08		
			CONTRACT NO.:		
			UNLESS OTHERWISE SPECIFIED		
			DIMENSIONS ARE IN INCHES		
			TOLERANCES ARE:		
			1 PLACE DECIMALS: ±.01		
			2 PLACE DECIMALS: ±.005		
			AND 1/2, 1/4, 3/8		
			SCALE: NONE		
			SHEET 1 OF 8		

APICAL INDUSTRIES

2608 TEMPLE HEIGHTS DR.
OCEANSIDE, CA. 92056-3512 (760)724-5300

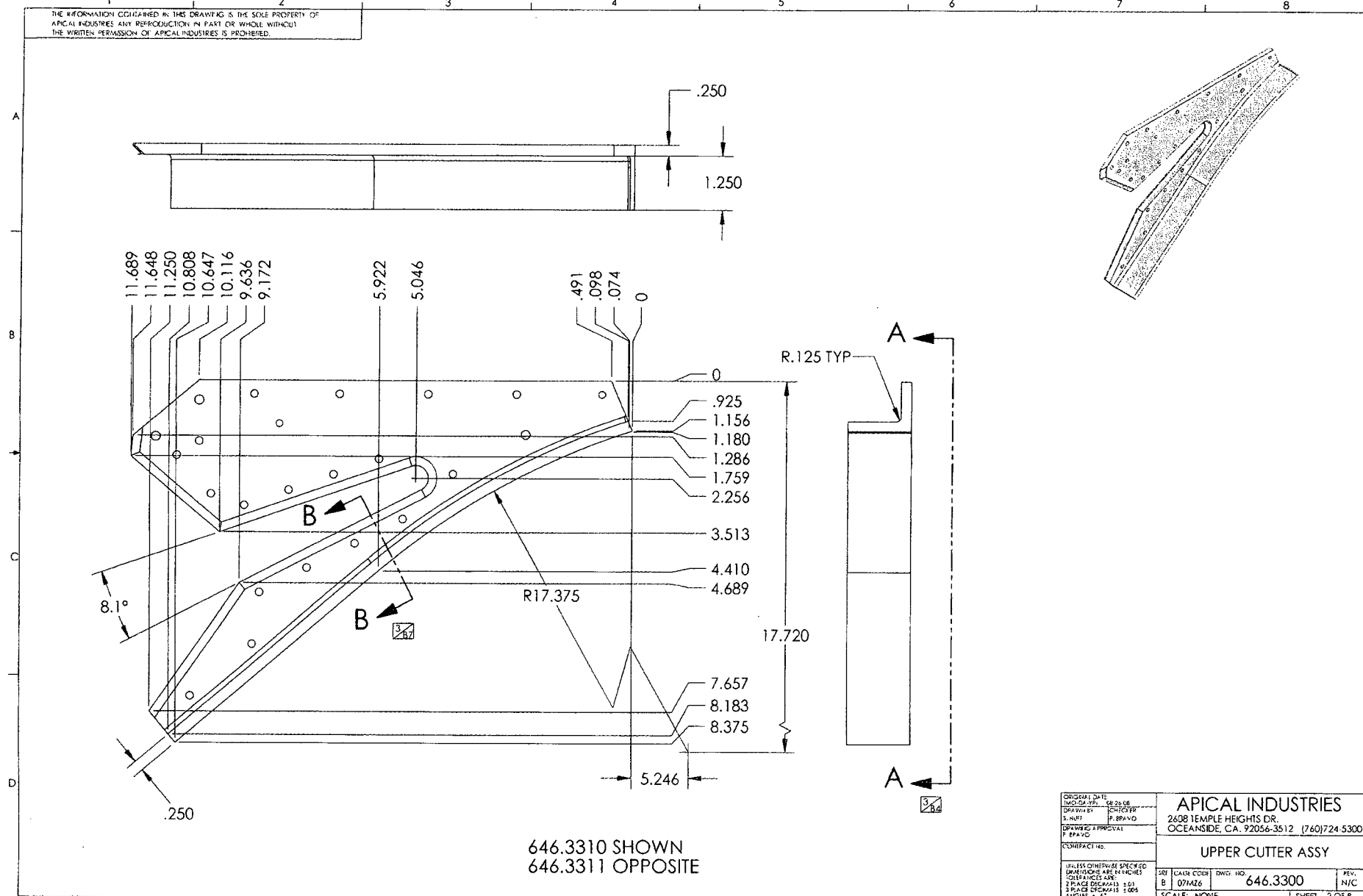
UPPER CUTTER ASSY

646.3300

SCALE: NONE

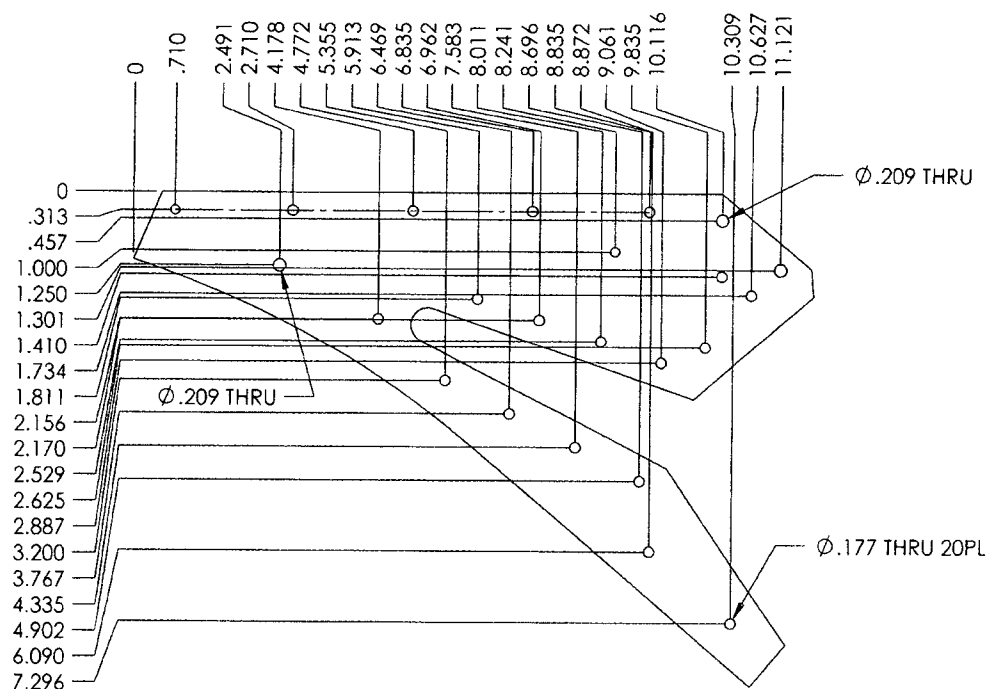
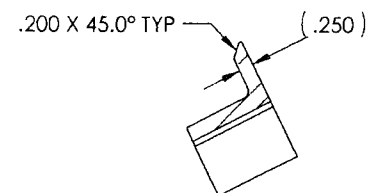
SHEET 1 OF 8

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ORIGINAL DATE 10/24/08		DESIGNED BY GR 24/08		APICAL INDUSTRIES	
DRAWN BY S. HUI		CHECKED BY P. BPAV		2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BPAV		CUTTING APPROVAL		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		SHEET CODE B		DWG. NO. 646.3300	
SCALE: NONE		SHEET 2 OF 8		REV. N/C	

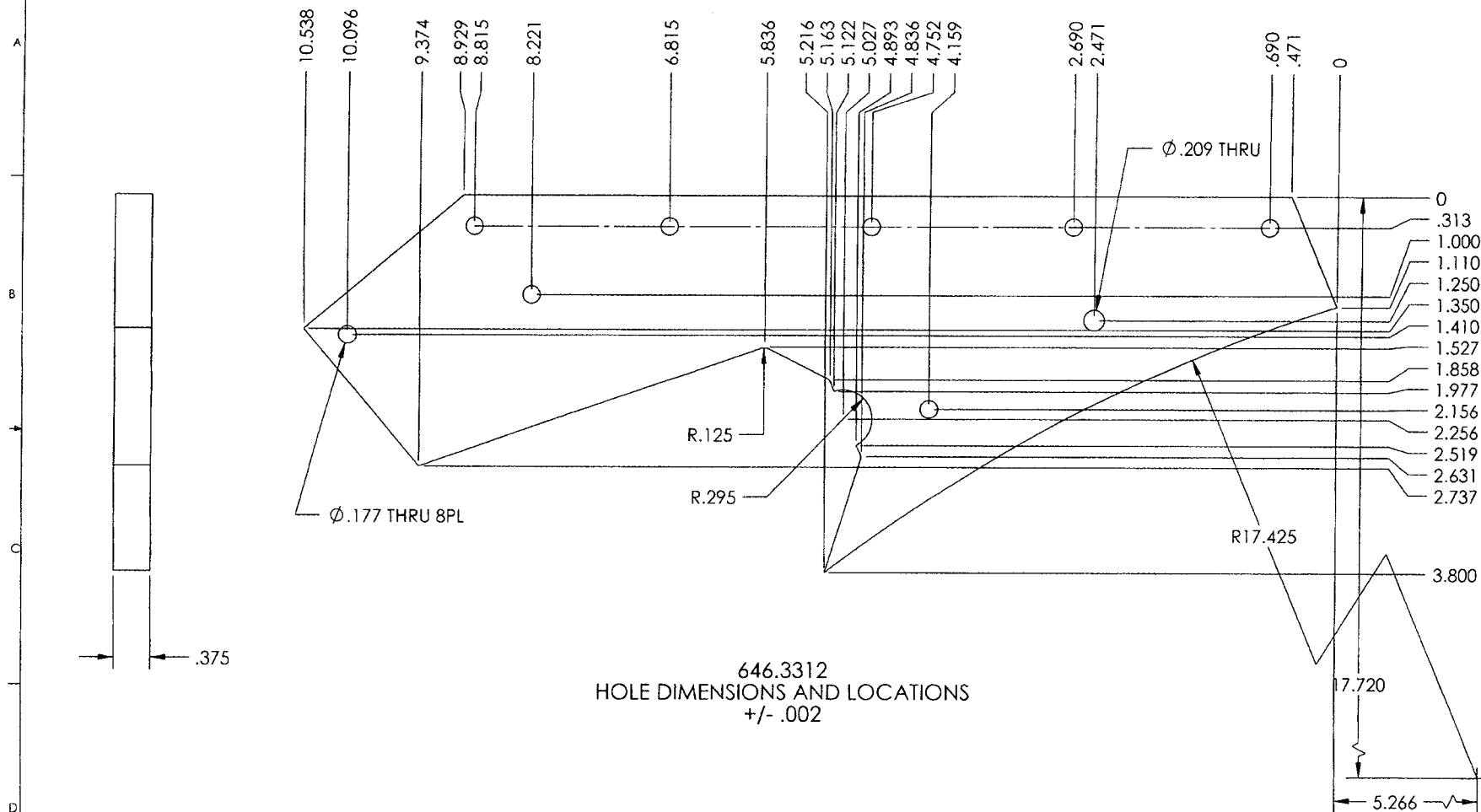
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SECTION A-A SECTION B-B 2/C2

ORIGINAL DATE INVOICED: 08-25-80	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		
QUANTITY 1 SHIP 1	ORDER # 1594-00		
BUYER'S APPROVAL			
CONTRACT NO.	UPPER CUTTER ASSY		
PLEASE OVERSEE SPECIFIC DIMENSIONS ARE CRITICAL TO DIMENSIONS: 1. PLACE DIMENSION 2.50 2. PLACE DIMENSION 2.50 3. PLACE DIMENSION 2.50	UNIT: 1 X OF CODE E 07/01/26	QTY: 1.00 646.3300 SCALE: NONE	REV. N/C
		SHIP 1	OF 1

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REV.	DESCRIPTION	DATE	APPROVED

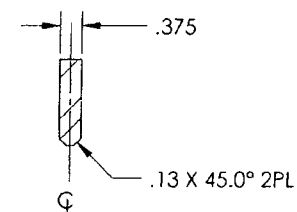
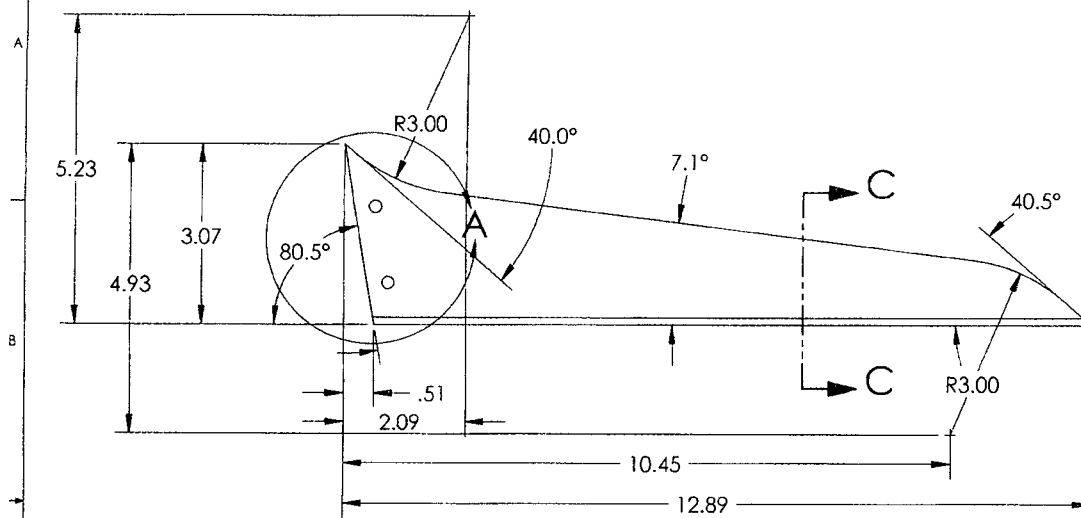


646.3312
HOLE DIMENSIONS AND LOCATIONS
+/- .002

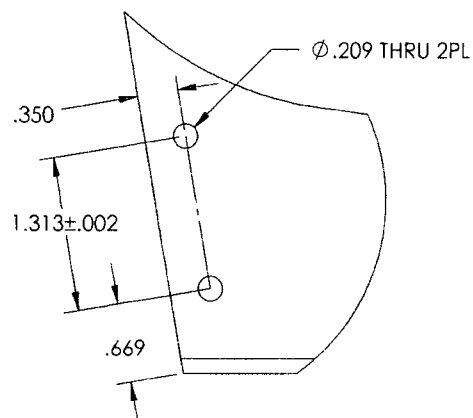
ORIGINAL DATE MODIFIED BY DRAWN BY S. HUNT CHECKED BY P. BAKAYO DRAWING APPROVAL P. BAKAYO CONTRACT NO.		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .01 3 PLACE DECIMALS .005 ANGLES .5°		DATE 07/02/06	DWG. NO. 646.3300
SCALE NONE		REV. N/C	SHEET 4 OF 8

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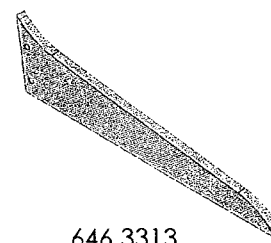
REVISIONS			
REV	DESCRIPTION	DATE	APPROVED



SECTION C-C



DETAIL A

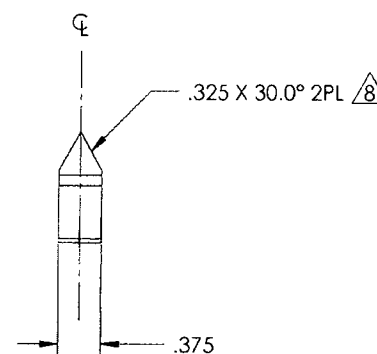
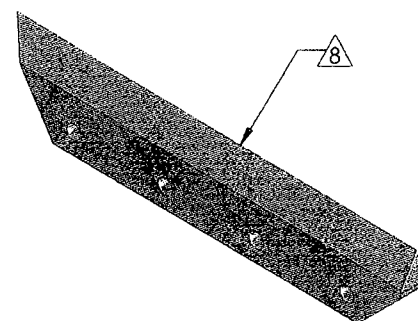
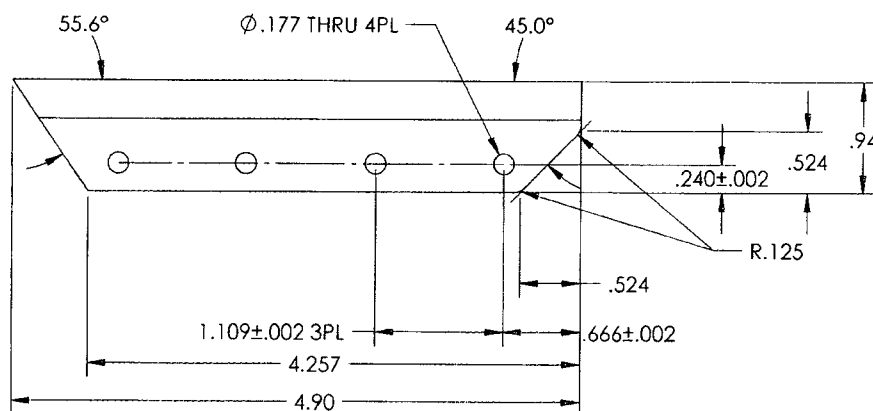


646.3313

ORIGINAL DATE (IND. BY 15) DRAWN BY S. HUNT CHECKED BY F. BRAVO DESIGNED C. CONTRACTOR		APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS .001 3 PLACE DECIMALS .0005 ANGLES .5°		SHEET NO. 07/02/26 DWS NO. 646.3300	REV. N/C
SCALE: NONE		SHEET 5 OF 6	

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

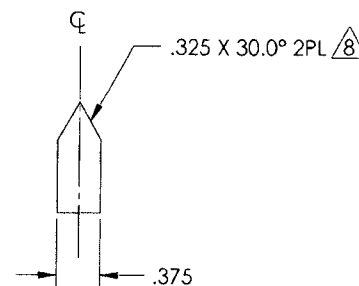
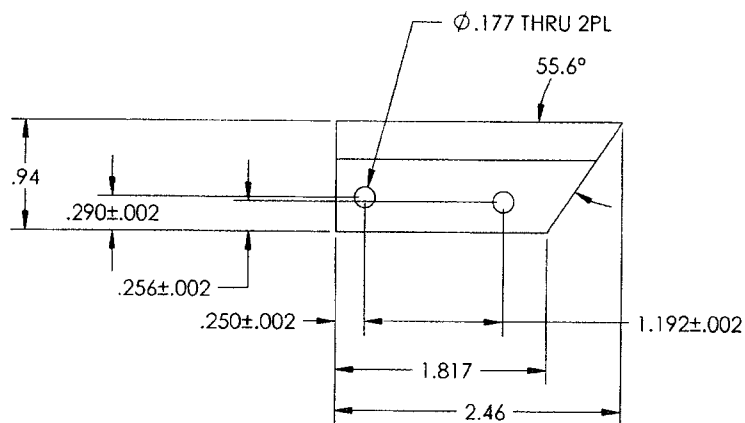
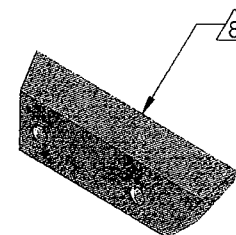


646.3314

ORIGINAL DATE 1/10/2010 08:26:08		APICAL INDUSTRIES	
DRAWN BY S. HUR	CHECKED P. BRAYD	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAYD		UPPER CUTTER ASSY	
CONTRACT NO.		REV	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS ±.01 3 PLACE DECIMALS ±.005 ANGLES ±.5°		8	07/26
SCALE NONE		DWG. NO	646.3300
		REV	N/C
		SHEET	6 OF 8

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED

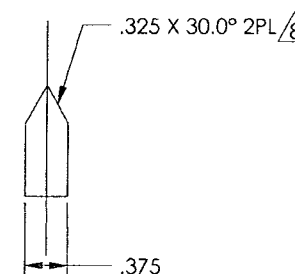
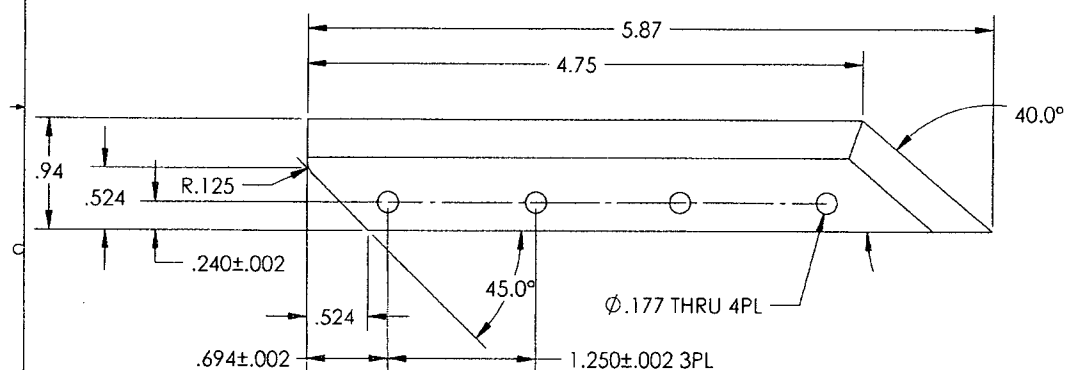
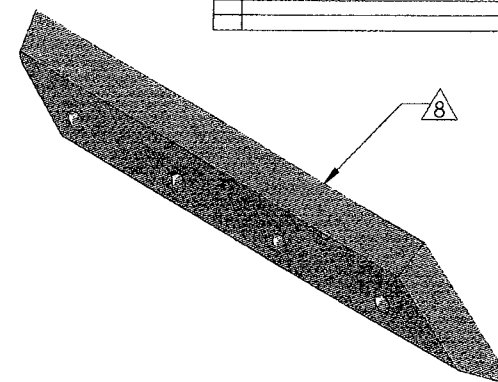


646.3315

ORIGINAL DATE: 08-16-02		DESIGNED BY: J. HUFF	
DRAWN BY: S. HUFF		CHECKED BY: P. BRAVO	
DRAWING APPROVAL: P. BRAVO		CONTRACT NO.:	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES ARE: 2 PLACE DECIMALS: .01 3 PLACE DECIMALS: .005 ANGLES: 1°		SHEET: 8	OF 8
APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760) 724-5300		UPPER CUTTER ASSY	
SCALE: NONE		SHEET: 7 OF 8	

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REVISION			
REV.	DESCRIPTION	DATE	APPROVED



646.3316

ORIGINAL DATE 10/04/1991 10:26:06		APICAL INDUSTRIES	
DRAWN BY S. HUI	CHECKED BY P. BRAVO	2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA, 92056-3512 (760)724-5300	
DRAWING APPROVAL P. BRAVO		UPPER CUTTER ASSY	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ±.01 SPACES DECIMALS ±.005 ANGLES ± .5°		REV B 07M16	QWS. NO. 646.3300
SCALE NONE		REV N/C	
SHEET 8 OF 8			